

We claim:

1. A telecommunications system installation and management apparatus for controlling the operation of at least one telecommunications device having a database containing configuration data used to control the operation of the device stored therein and operatively connected through a communications path with the apparatus, comprising:

a computer database including a plurality of data records containing configuration data used to control the operation of the at least one telecommunications device;

data input means for receiving configuration data from a user to be stored in one of said plurality of data records in said computer database; and

control means operatively connected with said computer database and said data input means, said control means operating to store said received configuration data in said one of said plurality of records and to modify at least one other of said plurality of records in response to said received configuration data.

2. The telecommunications system installation and management apparatus of claim 1 wherein said control means further operates to generate a first telecommunications device control command by converting said received configuration data into a protocol suitable for use with said at least one telecommunications device, and for transferring said first telecommunications device control command to said at least one telecommunications device using the communications path.

3. The telecommunications system installation and management apparatus of claim 2 wherein said control means further operates to access said at least one other of said plurality of records to retrieve modified configuration data therefrom, to generate a second telecommunications device control command by converting said modified configuration data into a protocol suitable for use with said at least one

telecommunications device, and for transferring said second telecommunications device control command to said at least one telecommunications device using the communications path.

4. The telecommunications system installation and management apparatus of claim 3 wherein said at least one telecommunications device comprises a PBX telephone switch and a call accounting system, and said first telecommunications device control command is transferred to said PBX telephone switch and said second telecommunications device control command is transferred to said call accounting system.

5. The telecommunications system installation and management apparatus of claim 3 wherein said at least one telecommunications device comprises a PBX telephone switch and a voice messaging system, and said first telecommunications device control command is transferred to said PBX telephone switch and said second telecommunications device control command is transferred to said voice messaging system.

6. A telecommunications system installation and management apparatus for controlling the operation of at least two telecommunications devices operatively connected through a communications path with the apparatus, comprising:

a computer database including a plurality of data records containing configuration data used to control the operation of the at least two telecommunications devices; and

control means operatively connected with said computer database, said control means operating to access said computer database to retrieve said configuration data and further operating to

(a) format said configuration data into first formatted configuration data suitable for a first one of said at least two telecommunications devices, to generate a first telecommunications device control command by converting said first

formatted configuration data into a protocol suitable for use with said first one of said at least two telecommunications devices, and to transfer said first telecommunications device control command to said first one of said at least two telecommunications devices, using the communications path; and

(b) format said configuration data into second formatted configuration data suitable for a second one of said at least two telecommunications devices, to generate a second telecommunications device control command by converting said second formatted configuration data into a protocol suitable for use with said second one of said at least two telecommunications devices, and to transfer said second telecommunications device control command to said second one of said at least two telecommunications devices, using the communications path.

7. The telecommunications system installation and management apparatus of claim 6 wherein said first one of said at least two telecommunications devices is a PBX telephone switch and said second one of said at least two telecommunication devices is a call accounting system.

8. The telecommunications system installation and management apparatus of claim 7 wherein said configuration data is one of a user name and an extension number.

9. The telecommunications system installation and management apparatus of claim 6 wherein said first one of said at least two telecommunications devices is a PBX telephone switch and said second one of said at least two telecommunication devices is a voice messaging system.

10. The telecommunications system installation and management apparatus of claim 9 wherein said configuration data is one of a user name and an extension number.

11. A method of replacing an installed telecommunications device with a replacement telecommunications device comprising the steps of:

accessing a memory containing configuration information in the installed telecommunications device through a communications interface connected between the installed telecommunications device and a maintenance computer system;

transferring said configuration information from said memory in said installed telecommunications device through said communications interface to said maintenance computer system and storing said configuration information in a memory in said maintenance computer system;

replacing said installed telecommunications device with the replacement telecommunications device; and

transferring said configuration information stored in said memory in said maintenance computer system to said replacement telecommunications device using said communications interface.

12. The method of claim 11 further comprising the step of translating said configuration information received from said installed telecommunications device into a format compatible with said replacement telecommunications device before said configuration information is transferred to said replacement telecommunications device.

13. The method of claim 12 wherein said installed telecommunications device and said replacement telecommunications device are made by different manufacturers.

14. The method of claim 11 wherein said installed telecommunications device and said replacement telecommunications device comprise private branch exchange telephone switches.

15. The method of claim 11 wherein said installed telecommunications device and said replacement telecommunications device comprise call accounting systems.

16. The method of claim 11 wherein said installed telecommunications device and said replacement telecommunications device comprise voice messaging systems.

17. The method of claim 11 wherein said configuration information comprises information designating features to be provided to a telephone station, trunks, peripherals, or other services connected with said installed telecommunications device.

18. A computer implemented system for controlling the operation of a telecommunications system including at least two telecommunications devices including at least one of a private branch exchange telephone switch, a call accounting system and a voice messaging system, comprising a computer readable medium encoded with a computer program and a database structure, said database structure containing configuration data for controlling the operation of said at least two telecommunications devices and said computer program containing instructions that cause a computer system to retrieve configuration data from said database structure and to process said configuration data into device control commands suitable for transmission to said at least two telecommunications devices.

19. The computer implemented system of claim 18 wherein said device control commands suitable for transmission to said at least two telecommunications devices have different protocol formats.

20. The computer implemented system of claim 18 wherein said at least two telecommunications devices have different internal operating systems.

21. The computer implemented system of claim 18 wherein said database structure contains a plurality of records, each of said records containing configuration data used to control the operation of said at least two telecommunications devices.

22. The computer implemented system of claim 21 wherein said plurality of records contains a plurality of fields, and configuration data contained in at least one of said fields is processed by the system to generate (1) a first command having a first format suitable for transmission to one of said at least two telecommunications devices and (2) a second command having a second format suitable for transmission to the other of said at least two telecommunications devices.

23. A maintenance computer system for use in replacing an installed telecommunications device with a replacement telecommunications device comprising:

a maintenance memory;

a communications interface;

a control means connected with said maintenance memory and said communications interface, said control means operating to access configuration data in a first device memory in the installed telecommunications device through said communications interface and to transfer said configuration data from said first device memory to said maintenance memory, and further operating to transfer said configuration data stored in said

maintenance memory to a second device memory in the replacement telecommunications device through said communications interface.

24. The maintenance computer system of claim 23 further comprising translation means for translating said configuration data transferred from said first memory in the installed telecommunications device into a format compatible with the replacement telecommunications device before said configuration data is transferred to said second device memory in the replacement telecommunications device.

25. The maintenance computer system of claim 24 wherein the installed telecommunications device and the replacement telecommunications device are made by different manufacturers.

26. The maintenance computer system of claim 23 wherein the installed telecommunications device and the replacement telecommunications device comprise private branch exchange telephone switches.

27. The maintenance computer system of claim 23 wherein the installed telecommunications device and the replacement telecommunications device comprise call accounting systems.

28. The maintenance computer system of claim 23 wherein the installed telecommunications device and the replacement telecommunications device comprise voice messaging systems.

29. The apparatus of claim 1 wherein said computer database system and said control means comprise at least a portion of one of the at least two telecommunications devices.

30. The apparatus of claim 6 wherein said computer database system and said control means comprise at least a portion of one of the at least two telecommunications devices.

31. The apparatus of claim 18 wherein said computer readable medium comprises at least a portion of one of the at least two telecommunications devices.

32. The apparatus of claim 1 wherein said control means further functions to detect a change in said configuration data in said computer database system and operates to retrieve said configuration data to be transferred to one of the at least two telecommunications devices from said computer database system in response to said change.

33. The telecommunications system installation and management apparatus of claim 3 wherein said at least one telecommunications device consists of a PBX telephone switch.

34. The telecommunications system installation and management apparatus of claim 3 wherein said at least one telecommunications device consists of a call accounting system.



35. The telecommunications system installation and management apparatus of claim 3 wherein said at least one telecommunications device consists of a voice messaging system.

36. The apparatus of claim 1 wherein said control means further operates to synchronize the configuration data stored within the computer database of the apparatus with the configuration data stored in said at least one telecommunications device.